

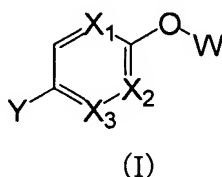
AMENDMENTS TO THE CLAIMS

Please amend the claims as follows. This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claims 1-47 (Canceled)

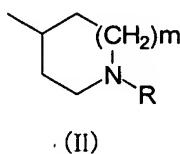
48. (New) A compound of the formula (I):



wherein:

X¹ is N, X² is N, and X³ is CH;

W represents a group of the formula (II):



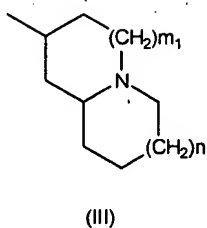
wherein m is 1;

R is selected from the group consisting of:

a linear or branched lower alkyl group, with the proviso that R is not a methyl group, a cycloalkyl group having from 3 to 9 carbon atoms, an aralkyl group, and a heterocyclic group which has from 3 to 8 carbon atoms and which has 1 or 2 nitrogen atoms or oxygen atoms,

which is unsubstituted or substituted with a group selected from the class consisting of a cyano group; a hydroxyl group; a lower alkyl group which is optionally substituted with a hydroxyl group, a halogen atom or an amino group; a lower alkoxy group which is optionally substituted with a halogen atom; a halogen atom; a mono-lower alkylaminocarbonyloxy group; a di-lower alkylaminocarbonyloxy group; a mono-lower alkylcarbamoyl group; a di-lower alkylcarbamoyl group; a carbamoyl group; a cycloalkyliminocarbonyl group; and a trifluoromethyl group,

or R represents a group of the formula (III):



wherein m^1 indicates an integer of from 0 to 3; n indicates an integer of from 0 to 2;

Y is selected from the group consisting of:

(1) phenyl, pyridyl, pyridazinyl, and pyrimidinyl;

which is unsubstituted or substituted with a substituent selected from the group consisting of: a hydroxyl group; a lower alkyl group which is optionally substituted with a hydroxy group, a halogen atom or an amino group; a lower alkoxy group which is optionally substituted with a halogen atom; a lower alkylsulfonyl group; a cyclo-lower alkylsulfonyl group; a halogen atom; a mono-lower alkylaminocarbonyloxy group; a di-lower alkylaminocarbonyloxy group; a mono-lower alkylcarbamoyl group; a di-lower alkylcarbamoyl group; a cycloalkyliminocarbamoyl group; a lactam ring; a mono-lower alkylamino group; a di-lower alkylamino group; an alkanoyl group; an alkoxy-carbonylamino group wherein the nitrogen atom is optionally substituted with a lower alkyl group; an alkanoylamino group wherein the nitrogen atom is optionally substituted with a lower alkyl group; and an alkylsulfonylamino group wherein the nitrogen atom is optionally substituted with a lower alkyl group;

(2) a bi- or tri-cyclic condensed ring having at least one phenyl group or pyridyl group in the ring;

which is unsubstituted or substituted with 1 or 2 substituents selected from the group consisting of: a hydroxyl group; a lower alkyl group which is optionally substituted with a hydroxy group, a halogen atom or an amino group; a lower alkoxy group which is optionally substituted with a halogen atom; a lower alkylsulfonyl group; a cyclo-lower alkylsulfonyl group; a halogen atom; a mono-lower alkylaminocarbonyloxy group; a di-lower alkylaminocarbonyloxy group; a mono-lower alkylcarbamoyl group; a di-lower alkylcarbamoyl group; a cycloalkyliminocarbamoyl group; a lactam ring; a mono-lower alkylamino group; a di-lower alkylamino group; an alkanoyl group; an alkoxy-carbonylamino group wherein the nitrogen atom is optionally substituted with a lower alkyl group; an alkanoylamino group wherein the nitrogen atom is optionally substituted with a lower alkyl group; and an alkylsulfonylamino group wherein the nitrogen atom is optionally substituted with a lower alkyl group;

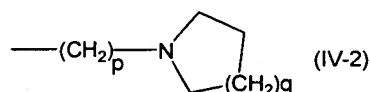
(3) furyl, thienyl, pyrrolyl, imidazolyl, pyrazolyl, thiazolyl, thiadiazolyl, isothiazolyl, oxazolyl, isoxazolyl, pyridyl, pyridazinyl, pyrimidinyl, and pyrazinyl;

which is unsubstituted or substituted with 1 or 2 substituents selected from the group consisting of: a hydroxyl group; a lower alkyl group optionally substituted with a hydroxy group, a halogen atom or an amino group; a lower alkoxy group optionally substituted with a halogen atom; a lower alkylsulfonyl group; a cyclo-lower alkylsulfonyl group; a halogen atom; a mono-lower alkylaminocarbonyloxy group; a di-lower alkylaminocarbonyloxy group; a mono-lower alkylcarbamoyl group; a di-lower alkylcarbamoyl group; a cycloalkyliminocarbamoyl group; a lactam ring; a mono-lower alkylamino group; a di-lower alkylamino group; an alkanoyl group; an alkoxy-carbonylamino group wherein the nitrogen atom is optionally substituted with a lower alkyl group; an alkanoylamino group wherein the nitrogen atom is optionally substituted with a lower alkyl group; and an alkylsulfonylamino group wherein the nitrogen atom is optionally substituted with a lower alkyl group;

(4) oxetanyl, tetrahydrofuranyl, tetrahydropyranyl, pyrrolidinyl, piperidinyl, homopiperidinyl, morpholinyl, and homomorpholinyl;

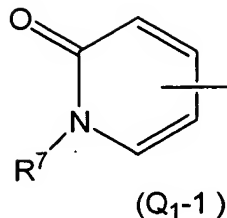
which is unsubstituted or substituted with 1 or 2 substituents selected from the group consisting of: a hydroxyl group; a lower alkyl group optionally substituted with a hydroxy group, a halogen atom or an amino group; a lower alkoxy group optionally substituted with a halogen atom; a halogen atom; a mono-lower alkylaminocarbonyloxy group; a di-lower alkylaminocarbonyloxy group; a mono-lower alkylcarbamoyl group; a di-lower alkylcarbamoyl group; a cycloalkyliminocarbamoyl group; a lactam ring; a mono-lower alkylamino group; a di-lower alkylamino group; an alkanoyl group; an alkoxy-carbonylamino group wherein the nitrogen atom is optionally substituted with a lower alkyl group; an alkanoylamino group wherein the nitrogen atom is optionally substituted with a lower alkyl group; and an alkylsulfonylamino group wherein the nitrogen atom is optionally substituted with a lower alkyl group;

(5) a group of the formula (IV-2):



wherein p is an integer of from 1 to 3; q is an integer of from 1 to 4; and

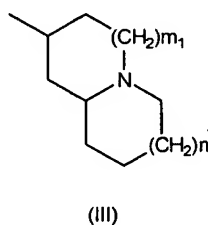
(6) a group of the formula (Q1-1)



wherein R^7 represents a hydrogen atom, a lower alkyl group, a cyclo-lower alkyl group, a halo-lower alkyl group, or an aralkyl group;

or a pharmaceutically acceptable salt thereof.

49. (New) The compound of Claim 48 wherein R in formula (II) is a cycloalkyl group having from 3 to 9 carbon atoms, or a heterocyclic group which has from 3 to 8 carbon atoms and which has 1 or 2 nitrogen atoms or oxygen atoms, which is unsubstituted or substituted with a group selected from a class consisting of a cyano group; a hydroxy group; a lower alkyl group which is optionally substituted with a hydroxy group, a halogen atom or an amino group; a lower alkoxy group; a mono-lower alkylaminocarbonyloxy group; and a di-lower alkylaminocarbonyloxy group; or a represents a group of a formula (III):



wherein m_1 indicates an integer of from 0 to 3; and n indicates an integer of from 0 to 2.

50. The compound of Claim 48 wherein -Y in formula (I) is selected from the group consisting of: phenyl, pyridyl, pyridazinyl, and pyrimidinyl,

which is unsubstituted or substituted with a substituent selected from the group consisting of: a hydroxyl group; a lower alkyl group which is optionally substituted with a hydroxy group, a halogen atom or an amino group; a lower alkoxy group which is optionally substituted with a halogen atom; a lower alkylsulfonyl group; a cyclo-lower alkylsulfonyl group; a halogen atom; a mono-lower alkylaminocarbonyloxy group; a di-lower alkylaminocarbonyloxy group; a mono-lower alkylcarbamoyl group; a di-lower alkylcarbamoyl group; a cycloalkyliminocarbamoyl group; a lactam ring; a mono-lower alkylamino group; a di-lower alkylamino group; an alkanoyl group; an

alkoxycarbonylamino group wherein the nitrogen atom is optionally substituted with a lower alkyl group; an alkanoylamino group wherein the nitrogen atom is optionally substituted with a lower alkyl group; and an alkylsulfonylamino group wherein the nitrogen atom is optionally substituted with a lower alkyl group.

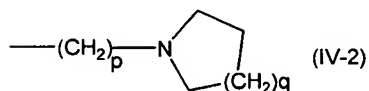
51. (New) The compound of Claim 48 wherein -Y in formula (I) is a bi- or tri-cyclic condensed ring having at least one phenyl group or pyridyl group in the ring, which is unsubstituted or substituted with 1 or 2 substituents selected from the group consisting of: a hydroxyl group; a lower alkyl group which is optionally substituted with a hydroxy group, a halogen atom or an amino group; a lower alkoxy group which is optionally substituted with a halogen atom; a lower alkylsulfonyl group; a cyclo-lower alkylsulfonyl group; a halogen atom; a mono-lower alkylaminocarbonyloxy group; a di-lower alkylaminocarbonyloxy group; a mono-lower alkylcarbamoyl group; a di-lower alkylcarbamoyl group; a cycloalkyliminocarbamoyl group; a lactam ring; a mono-lower alkylamino group; a di-lower alkylamino group; an alkanoyl group; an alkoxycarbonylamino group wherein the nitrogen atom is optionally substituted with a lower alkyl group; an alkanoylamino group wherein the nitrogen atom is optionally substituted with a lower alkyl group; and an alkylsulfonylamino group wherein the nitrogen atom is optionally substituted with a lower alkyl group.

52. (New) The compound of Claim 48 wherein -Y in formula (I) is selected from the group consisting of: furyl, thienyl, pyrrolyl, imidazolyl, pyrazolyl, thiazolyl, thiadiazolyl, isothiazolyl, oxazolyl, isoxazolyl, pyridyl, pyridazinyl, pyrimidinyl, and pyrazinyl; which is unsubstituted or substituted with 1 or 2 substituents selected from the group consisting of: a hydroxyl group; a lower alkyl group optionally substituted with a hydroxy group, a halogen atom or an amino group; a lower alkoxy group optionally substituted with a halogen atom; a lower alkylsulfonyl group; a cyclo-lower alkylsulfonyl group; a halogen atom; a mono-lower alkylaminocarbonyloxy group; a di-lower alkylaminocarbonyloxy group; a mono-lower alkylcarbamoyl group; a di-lower alkylcarbamoyl group; a cycloalkyliminocarbamoyl group; a lactam ring; a mono-lower alkylamino group; a di-lower alkylamino group; an alkanoyl group; an alkoxycarbonylamino group wherein the nitrogen atom is optionally substituted with a lower alkyl group; an alkanoylamino group wherein the nitrogen atom is optionally substituted with a lower alkyl group; and an alkylsulfonylamino group wherein the nitrogen atom is optionally substituted with a lower alkyl group.

53. (New) The compound of Claim 48 wherein -Y in formula (I) is selected from the group consisting of: oxetanyl, tetrahydrofuranyl, tetrahydropyranyl, pyrrolidinyl, piperidinyl, homopiperidinyl, morpholinyl, and homomorpholinyl;

which is unsubstituted or substituted with 1 or 2 substituents selected from the group consisting of: a hydroxyl group; a lower alkyl group optionally substituted with a hydroxy group, a halogen atom or an amino group; a lower alkoxy group optionally substituted with a halogen atom; a halogen atom; a mono-lower alkylaminocarbonyloxy group; a di-lower alkylaminocarbonyloxy group; a mono-lower alkylcarbamoyl group; a di-lower alkylcarbamoyl group; a cycloalkyliminocarbamoyl group; a lactam ring; a mono-lower alkylamino group; a di-lower alkylamino group; an alkanoyl group; an alkoxy-carbonylamino group wherein the nitrogen atom is optionally substituted with a lower alkyl group; an alkanoylamino group wherein the nitrogen atom is optionally substituted with a lower alkyl group; and an alkylsulfonylamino group wherein the nitrogen atom is optionally substituted with a lower alkyl group.

54. (New) The compound of Claim 48 wherein -Y in formula (I) is a group of the formula (IV-2):



wherein p is an integer of from 1 to 3; q is an integer of from 1 to 4.

55. (New) A compound which is selected from the group consisting of:

- 2-(1-cyclopentylpiperidin-4-yloxy)-5-(4-cyanophenyl)pyrimidine,
- 2-(1-isopropylpiperidin-4-yloxy)-5-(4-cyanophenyl)pyrimidine,
- 2-(1-cyclopentylpiperidin-4-yloxy)-5-[(3-methyl-1,2,4-oxadiazol-5-yl)phenyl]pyrimidine,
- 2-(1-cyclopentylpiperidin-4-yloxy)-5-(4-cyanophenyl)pyrimidine,
- 2-(1-(cyclobutyl)piperidin-4-yloxy)-5-(4-cyanophenyl)pyrimidine,
- 2-(1-cyclohexylpiperidin-4-yloxy)-5-(4-cyanophenyl)pyrimidine,
- 2-(1-cyclopropylpiperidin-4-yloxy)-5-(4-cyanophenyl)pyrimidine,
- 2-(1-ethylpiperidin-4-yloxy)-5-(4-cyanophenyl)pyrimidine,
- 2-(1-cyclopentylpiperidin-4-yloxy)-5-[(4-(pyrrolidin-1-ylcarbonyl)phenyl)]pyrimidine,
- 2-(1-cyclopentylpiperidin-4-yloxy)-5-[(4-(dimethylcarbonyl)phenyl)]pyrimidine,
- 2-(1-cyclopentylpiperidin-4-yloxy)-5-[(4-(morpholin-4-ylcarbonyl)phenyl)]pyrimidine,
- 2-(1-cyclopentylpiperidin-4-yloxy)-5-[(4-(phenoxy)phenyl)]pyrimidine,
- 2-(1-cyclopentylpiperidin-4-yloxy)-5-(3-quinolinyl)pyrimidine,

2-(1-cyclopentylpiperidin-4-yloxy)-5-(5-indolyl)pyrimidine,
2-(1-cyclopentylpiperidin-4-yloxy)-5-(1H-pyridin-2-on-1-yl)pyrimidine,
2-(1-cyclopentylpiperidin-4-yloxy)-5-(piperidin-2-on-1-yl)pyrimidine,
2-(1-cyclopentylpiperidin-4-yloxy)-5-(8-quinoliny)pyrimidine,
2-(1-cyclopentylpiperidin-4-yloxy)-5-(4-phenyl-4-hydroxypiperidin-1-yl)pyrimidine,
2-(1-cyclopentylpiperidin-4-yloxy)-5-(2-methoxypyridin-5-yl)pyrimidine,
2-(1-cyclopentylpiperidin-4-yloxy)-5-(4-chlorophenyl)pyrimidine,
2-(1-cyclopentylpiperidin-4-yloxy)-5-(4-trifluoromethylphenyl)pyrimidine,
2-(1-cyclopentylpiperidin-4-yloxy)-5-(pyridin-3-yl)pyrimidine,
2-(1-cyclopentylpiperidin-4-yloxy)-5-(4-methoxyphenyl)pyrimidine,
2-(1-cyclopentylpiperidin-4-yloxy)-5-(dibenzofuran-4-yl)pyrimidine,
2-(1-cyclopentylpiperidin-4-yloxy)-5-(2-cyclopentylloxypyridin-5-yl)pyrimidine,
2-(1-cyclopentylpiperidin-4-yloxy)-5-(1H-pyridin-2-on-5-yl)pyrimidine,
2-(1-cyclopentylpiperidin-4-yloxy)-5-(1-cyclopentyl-1H-pyridin-2-on-3-yl)pyrimidine,
2-(1-cyclopentylpiperidin-4-yloxy)-5-{2-(pyrrolidin-1-ylcarbonyl)pyridin-5-yl}pyrimidine,
2-(1-cyclopentylpiperidin-4-yloxy)-5-(2-cyano-5-thienyl)pyrimidine,
2-(1-cyclopentylpiperidin-4-yloxy)-5-{4-(morpholin-3-on-4-yl)phenyl}pyrimidine,
2-(1-cyclopentylpiperidin-4-yloxy)-5-{4-(2-oxazolidin-3-yl)phenyl}pyrimidine,
2-(1-cyclopentylpiperidin-4-yloxy)-5-(2-methylpyridin-5-yl)pyrimidine,
2-(1-cyclopentylpiperidin-4-yloxy)-5-(2-fluoropyridin-5-yl)pyrimidine,
2-(1-cyclopentylpiperidin-4-yloxy)-5-{4-(1H-pyridin-2-on-1-yl)phenyl}pyrimidine,
2-(1-cyclopentylpiperidin-4-yloxy)-5-{4-(methylsulfonyl)phenyl}pyrimidine,
2-(1-cyclopentylpiperidin-4-yloxy)-5-{4-acetylphenyl}pyrimidine,
2-(1-cyclopentylpiperidin-4-yloxy)-5-(4-trifluoromethoxyphenyl)pyrimidine,
2-(1-cyclopentylpiperidin-4-yloxy)-5-{4-(2-hydroxy-2-propyl)phenyl}pyrimidine,
2-(1-cyclopentylpiperidin-4-yloxy)-5-(2-ethylpyridin-5-yl)pyrimidine,
2-(1-cyclopentylpiperidin-4-yloxy)-5-(piperidin-1-ylcarbonyl)pyrimidine,
2-(1-cyclopentylpiperidin-4-yloxy)-5-(piperidin-1-ylmethyl)phenyl}pyrimidine,
2-(1-cyclopentylpiperidin-4-yloxy)-5-(4-phenylpiperazin-1-ylmethyl)pyrimidine,
2-(1-cyclopentylpiperidin-4-yloxy)-5-(2-cyanopyrimidin-5-yl)pyrimidine,
2-(1-cyclopentylpiperidin-4-yloxy)-5-(1H-pyridin-2-on-4-yl)pyrimidine,
2-(1-cyclopentylpiperidin-4-yloxy)-5-(1-methyl-1H-pyridin-2-on-4-yl)pyrimidine,
2-(1-cyclopentylpiperidin-4-yloxy)-5-(2-difluoromethoxypyridin-4-yl)pyrimidine,
2-(1-cyclopentylpiperidin-4-yloxy)-5-(1-difluoromethyl-1H-pyridin-2-on-4-yl)pyrimidine,
2-(1-cyclopentylpiperidin-4-yloxy)-5-{4-(N-methyl-N-methoxycarbonylamino)phenyl}-
pyrimidine,
2-(1-cyclopentylpiperidin-4-yloxy)-5-(1-ethyl-1H-pyridin-2-on-4-yl)pyrimidine,

2-(1-cyclopentylpiperidin-4-yloxy)-5-(1-methyl-1H-pyridin-2-on-5-yl)pyrimidine,
2-(1-cyclopentylpiperidin-4-yloxy)-5-(1-ethyl-1H-pyridin-2-on-5-yl)pyrimidine,
2-(1-cyclopentylpiperidin-4-yloxy)-5-(2-methylimidazo[1,2,a]pyridin-6-yl)pyrimidine,
2-(1-cyclopentylpiperidin-4-yloxy)-5-(2-carbamoylpyridin-5-yl)pyrimidine,
2-(1-cyclopentylpiperidin-4-yloxy)-5-{1-(2,2-difluoroethyl)-1H-pyridin-2-on-4-yl}pyrimidine,
2-(1-cyclopentylpiperidin-4-yloxy)-5-(1,2,4-triazolo[4,3,a]pyridin-7-yl)pyrimidine,
2-(1-cyclopentylpiperidin-4-yloxy)-5-(1,2,4-triazolo[4,3,a]pyridin-6-yl)pyrimidine,
2-(1-cyclobutylpiperidin-4-yloxy)-5-(1-difluoromethyl-1H-pyridin-2-on-4-yl)pyrimidine,
2-(1-cyclobutylpiperidin-4-yloxy)-5-{1-(2-fluoroethyl)-1H-pyridin-2-on-4-yl}pyrimidine,
2-(1-cyclopentylpiperidin-4-yloxy)-5-{1-(2-fluoroethyl)-1H-pyridin-2-on-4-yl}pyrimidine,
or a pharmaceutically acceptable salt thereof.

56. (New) A pharmaceutical composition which comprises an inert carrier and the compound of Claim 48, or a pharmaceutically acceptable salt thereof.

57. (New) A pharmaceutical composition which comprises an inert carrier and the compound of Claim 55, or a pharmaceutically acceptable salt thereof.